No. 21-15430

IN THE UNITED STATES COURT OF APPEALS
FOR THE NINTH CIRCUIT

ACA CONNECTS – AMERICA'S COMMUNICATIONS ASSOCIATION,
CTIA – THE WIRELESS ASSOCIATION,
NCTA – THE INTERNET & TELEVISION ASSOCIATION, and
USTELECOM – THE BROADBAND ASSOCIATION,
Plaintiffs-Appellants,

v.

XAVIER BECERRA, in his official capacity as Attorney General of California,
Defendant-Appellee,

On Appeal from the United States District Court for the Eastern District of California, No. 2:18-cv-02684, Hon. John A. Mendez

BRIEF OF *AMICUS CURIAE* CHRISTOPHER S. YOO IN SUPPORT OF PLAINTIFFS-APPELLANTS

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CORPORATE DISCLOSURE STATEMENTS

Christopher S. Yoo is an individual and is not subject to the corporate disclosure requirements of Fed. R. App. P. 26.1. *See* Fed. R. App. P. 29(a)(4)(A) (requiring corporate disclosure for an amicus curiae only "if the amicus curiae is a corporation").

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Christopher S. Yoo is the John H. Chestnut Professor of Law, Communication, and Computer & Information Science and the Founding Director of the Center for Technology, Innovation and Competition at the University of Pennsylvania. He has written extensively about Internet regulation from a legal, economic, and technological perspective. His publications on net neutrality include:

- THE DYNAMIC INTERNET: HOW TECHNOLOGY, USERS, AND BUSINESSES ARE TRANSFORMING THE NETWORK (AEI Press 2012).
- NETWORKS IN TELECOMMUNICATIONS: ECONOMICS AND LAW (Cambridge University Press 2009) (with Daniel F. Spulber).
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Christopher S. Yoo has held academic appointments as Professor of Law and Director at the Technology and Entertainment Law Program at the Vanderbilt Law School. He clerked for the Hon. A. Raymond Randolph of the U.S. Court of Appeals for the D.C. Circuit and for the Hon. Anthony M. Kennedy of the Supreme Court of the United States. He is currently serving on the Federal Communications Commission's Broadband Deployment Advisory Committee.

Professor Yoo's writing has been cited by federal courts of appeals eleven times, the *Harvard Law Review* twenty-six times and by the *Yale Law Journal* eighteen times, just to name a few. He is currently the Principal Investigator on two National Science Foundation grants on Internet security. He was selected to be a member of the Board of Advisers of the American Law Institute's Project on Information Privacy Principles and its Project on Principles for a Data Economy

(joint with the European Law Institute). He serves on the editorial board of *Telecommunications Policy* and numerous other journals.

Analyzing this case from an integrated legal and technical perspective, this brief will help the Court to understand how technical considerations support the plaintiff-appellants' preemption argument.

Christopher S. Yoo is filing solely as an individual and not on behalf of any institution. All parties have consented to the filing of this brief. *See* Fed. R. App. P. 29(a)(2). No counsel for any party authored this brief in whole or in part, no party or party's counsel has contributed money intended to fund the preparation or submission of the brief, and no individual or organization contributed funding for the preparation and submission of the brief. *See id.* 29(a)(4)(E).

INTRODUCTION AND SUMMARY OF ARGUMENT

Plaintiffs-Appellants' preemption claims are likely to succeed. The Supremacy Clause makes clear: "the laws of the United States . . . shall be the supreme Law of the Land . . . any Thing in the Constitution or Laws of any state to the Contrary notwithstanding." U.S. Const. art. VI, cl. 2. This mandate dictates that either federal statutes or regulations "pre-empt any state or local law that conflicts with such regulations or frustrates the purposes thereof." *City of New York v. FCC*, 486 U.S. 57, 64 (1988). Courts have been particularly reluctant to disturb agency actions that strike "a reasonable accommodation of the competing policies committed to [their] care." *Id.* (citing, *inter alia*, *Capital Cities Cable, Inc. v. Crisp*, 467 U.S. 691, 700 (1984))); *accord Geier v. Am. Honda Motor Co.*, 529 U.S. 861, 883 (2000) (giving weight to the agency's conclusion that state law would stand as obstacle to achieving the objectives reflected in the federal regulation).

Two forms of conflict preemption are particularly relevant to this case: First, "a federal decision to forgo regulation in a given area may imply an authoritative federal determination that the area is best left *un*regulated, and in that event would have as much pre-emptive force as a decision *to* regulate." *Ark. Elec. Co-op. Corp. v. Ark. Pub. Serv. Comm'n*, 461 U.S. 375, 384 (1983). Second, the law also preempts state laws that disrupt the careful balance of interests reflected in

the regulatory approach that a federal agency has adopted to achieve its policy objectives. *See Geier*, 529 U.S. at 874-84; *Capital Cities Cable*, 467 U.S. at 716.

In addition, this Court has recognized the propriety of preempting state regulation of different types of traffic that are so commingled that providers "would be forced to comply with the state's more stringent requirements, or choose not to offer certain enhanced services, thereby defeating the FCC's more permissive policy." *California v. FCC*, 39 F.3d 919, 933 (9th Cir. 1994). Together, these considerations indicate that the merits of the claim that federal law preempts Sections 3100-3104 of the California Civil Code (the California statute) are likely to succeed.

ARGUMENT

I. The California Statute Is Preempted Because It Conflicts with the FCC's Regulatory Decisions.

The California statute conflicts with FCC regulatory policy in two distinct ways. First, it attempts to adopt regulatory measures that the FCC has affirmatively rejected. Second, its provisions conflict with the FCC's policy of adopting a light-touch regulatory regime for broadband Internet access services.

A. The California Statute's Inclusion of Prohibitions That the FCC Affirmatively Rejected Impermissibly Conflicts with FCC Policy.

The Supreme Court has repeatedly recognized that the decision to forgo regulating in a given area may represent an affirmative decision to leave that area

unregulated that is sufficient to preempt state law. *See, e.g.*, *Ark. Elec. Co-op. Corp.*, 461 U.S. at 384. This inference is particularly strong when an agency has considered and affirmatively refused to adopt the specific regulatory measure in question. For example, in *Bethlehem Steel Co. v. New York State Labor Relations Board*, 330 U.S. 767 (1947), the Court confronted a state law effort to allow unionization of foremen during a time when a federal agency, after initially recognizing their right to do so, changed its policy and ruled that federal labor law did not provide such a right. *Id.* at 770. The Court held the state's action preempted, concluding that "where failure of the federal officials affirmatively to exercise their full authority takes on the character of a ruling that no such regulation is appropriate or approved pursuant to the policy of the statute." *Id.* at 774.

The Court drew a similar conclusion in *NLRB v. Nash-Finch Co.*, 404 U.S. 134 (1971), which preempted a state law attempt to prohibit conduct that federal labor law decided to leave to economic forces. The Court recognized that the "federal regulatory regime" at issue in that case "(1) protects some activities . . . , (2) prohibits some practices, and (3) leaves others to be controlled by the free play of economic forces," with the conduct that the state was trying to curtail properly falling into the third category. *Id.* at 144. The Court emphasized that state laws that interfere with areas that federal regulation affirmatively decided not to regulate

were as problematic as state laws that conflicted with affirmative federal regulatory restrictions, quoting language from a prior decision holding that "[f]or a state to impinge on the area of labor combat designed to be free is quite as much an obstruction of federal policy as if the state were to declare picketing free for purposes or by methods which the federal Act prohibits." *Id.* (quoting *Garner v. Teamsters*, 346 U.S. 485, 500 (1953)).

The preemptive effect of affirmative federal decisions not to regulate is not limited to labor law. In *Ray v. Atl. Richfield Co.*, 435 U.S. 151 (1978), the Supreme Court confronted the question whether federal regulation preempted two state statutory provisions seeking to impose restrictions on shipping. The key question for the Court was whether the federal agency had promulgated its own requirement governing the conduct in question "or has decided that no such requirement should be imposed at all." *Id.* at 171-72. The fact that the agency had not yet completed its rulemaking proceeding regarding the conduct covered by the first state statutory provision meant that state and federal law on that topic could necessarily not yet conflict, although it might do so once the agency issued its final rule. *Id.*at 172. Conversely, the Court held the second state statutory provision preempted because the federal agency had already addressed and acted upon the issue and adopted a rule that was more permissive than the one adopted by the state. *Id.* at 174-75. The Court cited as support the language from *Bethlehem Steel*

quoted above recognizing the preemptive effective of affirmative federal regulatory decisions not to restrict certain types of conduct. *Id.* at 178 (quoting *Bethlehem Steel*, 330 U.S. at 774).

This Court has applied the same principles to reach similar conclusions. *Marshall v. Burlington Northern, Inc.*, 720 F.2d 1149 (9th Cir. 1983), preempted state law from requiring locomotives to employ strobe and oscillating lights as warning devices in part because federal regulatory authorities had considered and rejected imposing such a requirement. *Id.* at 1153-54. As support, this Court quoted the language from *Bethlehem Steel* quoted in *Ray* recognizing that states are not permitted to regulate "where failure of the federal officials affirmatively to exercise their full authority takes on the character of a ruling that no such regulation is appropriate or approved pursuant to the policy of the statute." *Id.* at 1154 (quoting *Ray*, 435 U.S. at 178 (quoting *Bethlehem Steel*, 330 U.S. at 774)). Other Courts of Appeals have issued similar decisions.[1]

[1] *See, e.g.*, *Minn. Pub. Utils. Comm'n. v. FCC*, 483 F.3d 570, 580 (8th Cir. 2007) (holding that the federal regulatory decision not to subject voice over Internet Protocol (VoIP) to tariff regulation preempted state law tariff requirement); *Burlington N. & Santa Fe Ry. Co. v. Doyle*, 186 F.3d 790, 802 (7th Cir. 1999) (holding that an agency deregulation preempts state law when the agency "considered the issue and affirmatively decided not to regulate"); *Gracia v. Volvo Europa Truck, N.V.*, 112 F.3d 291, 296-97 (7th Cir. 1997) (finding that a federal agency preempted state law when it made the "affirmative decision" to reject particular trucking safety regulations); *Kinley Corp. v. Iowa Utils. Bd.*, 999 F.2d 354, 359 (8th Cir. 1993) (holding that "[t]he decision of the Department of Transportation to exempt certain pipelines from federal regulation does not

These principles clearly establish the preemption of the California statute. The FCC's 2018 *Restoring Internet Freedom* Order repealed rules adopted in 2015 that prohibited (1) blocking lawful content, applications, services, or nonharmful devices, subject to reasonable network management; (2) impairing or degrading lawful Internet traffic on the basis of Internet content, application, or service or use of a nonharmful device, subject to reasonable network management; (3) engaging in paid prioritization, defined as traffic shaping, prioritization, resource reservation, or other forms of preferential traffic management in exchange for consideration; and (4) unreasonably interfering with or unreasonably disadvantaging end users' ability to select the lawful Internet content, services, and applications of their choice or edge providers' ability to make lawful content, applications, services, or devices available to end users, subject to reasonable network management. *Restoring Internet Freedom*, Declaratory Ruling, Report and Order, and Order, 33 FCC Rcd. 311 ¶¶ 239, 246-266 (2018) ("2018 Order"), *petitions for review granted in part and denied in part*, *Mozilla Corp. v. FCC*, 940 F.3d 1 (D.C. Cir.

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necessarily mean that the state can step in and impose its own regulations"); *Burlington N. R.R. Co. v. Minnesota*, 882 F.2d 1349, 1354 (8th Cir. 1989) (holding that "[a]s Minnesota's mandatory caboose requirement stands in direct conflict with the FRA's implied ruling that such a regulation is not appropriate . . . the Minnesota statute is preempted"); *Mo. Pac. R.R. v. R.R. Comm'n*, 850 F.2d 264, 268 (5th Cir. 1988) (holding that "implied preemption . . . arises when the policymaker appears to be saying 'we haven't done anything because we have determined it is appropriate to do nothing '").

2019) (per curiam).[2] In the process, the 2018 Order rendered unnecessary the exception for services other than broadband Internet access services delivered over the same last-mile connection as the broadband service, 2015 Order ¶ 207, and cited the elimination of the uncertainty about the legality of zero rating as one the benefits of repealing these rules, 2018 Order ¶¶ 158, 250.

The FCC replaced these rules with a regulatory regime carefully calibrated to promote innovation and investment in the manner that imposed the fewest costs. Rather than regulating conduct directly, the FCC adopted a transparency rule requiring ISPs to disclose their network management practices covered by the previous rules, including blocking, throttling, affiliated prioritization, and paid prioritization, as well as practices covered by the previous transparency rule, including congestion management, application-specific behavior, device attachment rules, and security. *Id.* ¶¶ 219-220. It also retained the provisions requiring ISPs to report the performance characteristics and commercial terms of the services they provide. *Id.* ¶¶ 222-223. At the same time, the FCC affirmatively decided that the prior conduct rules must be repealed. *Id.* ¶ 245. The agency ruled

[2] For the original statement of these rules, see *Protecting and Promoting the Open Internet*, Report and Order on Remand, Declaratory Ruling, and Order, 30 FCC Rcd. 5601 ¶¶ 14-22 (2015) ("2015 Order") ("2015 Order"), *petitions for review denied sub nom. U.S. Telecom Ass'n v. FCC*, 873 F.3d 674 (D.C. Cir. 2016).

that "[h]istory demonstrates that public attention, not heavy-handed Commission regulation, has been most effective in deterring ISP threats to openness and bringing about resolution of the rare incidents that arise." *Id.* ¶ 241.

That said, the FCC "recognize[d] that regulation has an important role to play as a backstop where genuine harm is possible." *Id.* ¶ 244. The transparency rule "amplifies the power of antitrust law and the FTC Act to deter and where needed remedy behavior that harms consumers." *Id.* At the same time, the previous rules were imposing costs on consumers by deterring network investment and service innovation, *id.* ¶¶ 20, 246-247, 249, 253-258, and by forcing ISPs to bear additional compliance costs, *id.* ¶¶ 20, 249, 251, 322. Using transparency rules to regulate conduct such as paid prioritization, blocking, and throttling "achieves comparable benefits to conduct rules" with "costs of compliance . . . [that] are much lower than the cost of compliance with conduct rules." *Id.* ¶¶ 244-245. The reduction in costs and increased flexibility can also reduce prices to consumers and help close the digital divide. *Id.* ¶¶ 259-260. "To the extent that conduct rules led to any marginal deterrence, we deem the substantial costs—including costs to consumers in terms of lost innovation as well as monetary costs to ISPs—not worth the possible benefits." *Id.* ¶ 245 (footnote omitted); *accord id.* ¶¶ 116, 246, 253, 264 (detailing the costs of the specific conduct rules)

The California statute's restrictions are almost verbatim copies of the rules repealed by the FCC's 2018 Order. *See* Cal. Civ. Code §§ 3101-3102; Broadband Petr's Br. 31-33. As such, the California statute runs afoul of the Supreme Court's longstanding recognition that a federal agency's affirmative decision not to impose a certain type of regulation preempts state law attempts to impose that type of regulation so long as the federal agency continues to oversee the subject matter.

B. The Caifornia Statute Conflicts with the Light-Touch, Market-Based Regulatory Approach the FCC Adopted to Achieve Its Policy Objectives.

Enacting restrictions that federal regulation has affirmatively rejected is not the only way that state law can conflict with, and thus be preempted by, federal law. "Under ordinary conflict preemption principles a state law that 'stands as an obstacle to the accomplishment execution of the full purposes and objectives of a federal law is pre-empted." *Williamson v. Mazda Motor of Am., Inc.*, 562 U.S. 323, 330 (2011) (quoting *Hines v. Davidowitz*, 312 U.S. 52, 67 (1941)). And as noted above, the Supreme Court has accorded preemptive effect to federal decisions that market dynamics would discipline certain types of conduct better than regulation. *See Nash-Finch Co.*, 404 U.S. at 144. The Supreme Court has also held that state laws that restrict options that federal financial regulatory policy deliberately wished to leave open constitute "an obstacle to the accomplishment and execution of the full purposes and objectives" of the federal regulatory scheme

and are thus preempted. *Fidelity Fed. Sav. & Loan Ass'n v. de la Cuesta*, 458 U.S. 141, 156 (1982) (quoting *Hines*, 312 U.S. at 67).

The Supreme Court has applied these principles to communications policy, recognizing that the affirmative decision to give providers "the breathing space necessary to expand vigorously and provide a diverse range of . . . offerings" represents an affirmative determination "that restrictive regulation of a particular area is not in the public interest," and therefore , "States are not permitted to use their police power to enact such a regulation." *Capital Cities Cable*, 467 U.S. at 708 (quoting *Ray*, 435 U.S. at 178). This Court has concurred, holding that when the FCC adopts a permissive regulatory policy, permitting a state to force a firm "to comply with the state's more stringent requirements" would "defeat[] the FCC's more permissive policy" and is therefore preempted. *California v. FCC*, 39 F.3d at 933.

As a result, this Court has upheld preemption of state laws attempting to regulate enhanced services, which is the predecessor category to the information services at issue in this case. *Id*. It has also held that federal law bars municipalities from regulating broadband service, deferring to the FCC's decision to "mandate a network architecture that prioritizes consumer choice, demonstrated by vigorous competition among the telecommunications carriers." *AT&T Corp. v. City of Portland*, 216 F.3d 871, 879-80 (9th Cir. 2000). Other Courts of Appeals

have given similar preemptive effect to the FCC's commitment to "promot[ing] a market-oriented policy allowing providers of information services to burgeon and flourish in an environment of free give-and-take of the market place without the need for and possible burden of rules, regulations and licensing requirements." *Minn. Pub. Utils. Comm'n. v. FCC*, 483 F.3d 570, 580 (8th Cir. 2007) (internal quotation marks and citations omitted).

The California statute would clearly obstruct the purposes and objectives of the 2018 Order in precisely this manner. The 2018 Order regulates the precise conduct covered by the California statute (including blocking traffic, impairing or degrading traffic, paid prioritization, zero rating, and interference and disadvantage to the use of content, applications, services, or devices), explicitly concluding that the most beneficial and cost-effective way to do so is by mandating disclosure of practices with respect to that conduct rather than by direct restrictions. 2018 Order ¶¶ 219-220, 244-246, 253, 264.

In so doing, the 2018 Order specifically rejected the type of restrictions embodied in the California statute in favor of a return to the "light-touch, market-based" regulatory framework that had characterized Internet policy from the Clinton Administration through the first six years of the Obama Administration. 2018 Order ¶¶ 1-2, 207; *accord* ¶¶ 9, 18, 86, 109, 270, 423. This FCC concluded that lifting the type of regulation repealed in 2018 and embodied in the California

statute in favor of a more competition-oriented approach would promote investment and innovation better than would regulation. *Id.* ¶¶ 2, 86-139. Pre-existing legal frameworks, such as antitrust and consumer protection laws, can address any potential harms without imposing the regulatory burdens associated with the approach rejected by the FCC in 2018 and subsequently adopted by the California statute. *Id.* ¶¶ 4, 87, 117, 140-154, 261-264.

The 2018 Order is thus properly regarded as active oversight of conduct covered by the California statute through a mechanism that carefully balances the costs and benefits of different regulatory approaches. The 2018 Order's transparency rule mandates disclosures of the specific conduct covered by the California statute and affirmatively rejects imposing direct restrictions on that conduct because the costs of those direct restrictions would exceed their benefits. *Id.* ¶¶ 116, 244-246, 253, 264. Far from an abdication of oversight, the 2018 Order represents an explicit "recogni[tion] that regulation has important role to play as a backstop where genuine harm is possible," *id.* ¶ 244, and that the best way to address any such harms is through regulations that make that conduct visible to market participants and to authorities enforcing the antitrust and consumer protection laws, *id.* ¶¶ 243-244. The 2018 Order reflects the FCC's assessment of the lowest cost approach to regulating the conduct covered by the California statute. *Id.* ¶¶ 239-240, 244-245, 253, 264. It also reflects the FCC

Commissioners' candid acknowledgement of their "limits as regulators," by recognizing that heavy-handed conduct regulation is less effective than disclosure rules that enhance the effectiveness of antitrust and consumer protection laws. *Id.* ¶ 122.

If allowed to stand, the California statute would disrupt the careful policy balance struck by the FCC's 2018 Order. It would overturn the FCC's decision that the best way to regulate the conduct that it covers is through the disclosures mandated by the 2018 Order's transparency rule in favor of a more intrusive approach that the FCC affirmatively rejected as not providing benefits sufficient to justify the cost. As such, the California statute is in direct conflict with the purposes and objectives of federal law and is likely to be preempted.[3]

[3] The California statute's imposition of common carriage-style regulation on an information service also conflicts with the federal communications statute. The statute defines two types of relevant services: "telecommunications service," 47 U.S.C. § 153(53), and "information service," *id.* § 153(24). These two definitions have long been recognized as mutually exclusive. *Mozilla*, 940 F.3d at 19. Moreover, the statute's definition of "telecommunications carrier" as "any provider of telecommunications services" specifies that "[a] telecommunications carrier shall be treated as a common carrier . . . only to the extent that it is . . . providing telecommunications services." *Id.* § 153(51). For mobile communications, the statute similarly distinguishes between "commercial mobile service" and "private mobile service" and specifies that the former shall be treated as common carriers but the latter shall not. *Id.* § 332(c)-(d). The 2018 Order clearly defined broadband access as an information service, 2018 Order ¶¶ 26-64, and mobile broadband access as ap private mobile service, *id.* ¶ 82. The D.C. Circuit upheld both determinations in a judicial proceeding in which Defendant-Appellee was a party. *Mozilla*, 940 F.3d at 18-45. The California statute's reimposition of

II. The Practical Impossibility of Separating Interstate and Intrastate Internet Traffic Supports Preempting the California Statute.

Although the federal communication statute envisions joint federal-state authority over most aspects of communications because most communications services involve at least some intrastate communications, 47 U.S.C. § 152(b), the Supreme Court recognized that the federal government may exercise exclusive jurisdiction "where it [is] *not* possible to separate the interstate and the intrastate components of the asserted FCC regulation." *La. Pub. Serv. Comm'n v. FCC*, 476 U.S. 355, 377 n.4 (1986).; *see also Geier*, 529 U.S. at 869-71 (holding that preemption savings clauses do not bar ordinary conflict preemption principles).

This Court has recognized that this exception to 47 U.S.C. § 152(b) does not require strict impossibility; it requires only that compliance with both state and federal regulations not be "economically or operationally feasible." *California*, 39 F.3d at 933. For example, although it might be "possible" for consumers to circumvent a conflict by purchasing separate devices for interstate and intrastate, it would be "highly unlikely, due to practical and economic considerations." *Id.* (citing *N.C. Utils. Comm'n v. FCC*, 552 F.2d 1036 (4th Cir. 1977)). The Supreme Court has similarly upheld the preemption of a state law that required cable providers to intercept and block certain advertisements in real time depending on

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common carriage regulation on what are established to be information services and private mobile services thus directly conflicts with the federal statute.

where that content originated; even if technically possible, state laws that require such differentiation between interstate and intrastate traffic would be so "prohibitively burdensome" as to justify preemption. *Capital Cities Cable*, 467 U.S. at 707.

The same principles apply to the California statute, which governs service to all customers in California regardless of whether that traffic originates from inside or outside the state. Cal. Civ. Code § 3100(b).[4] Refusing to preempt the California statute would subject interstate traffic to one set of rules if at least one endpoint were located within California and another set of rules if both endpoints were outside the state. Even ignoring the plain language of the statute and construing it to apply only to purely intrastate traffic would still require ISPs serving a customer in California to differentiate between interstate and intrastate traffic. The cost of treating both types broadband traffic differently would be enormous, and any attempt to do so would adversely affect the speed, reliability, and security that consumers expect from the current broadband network. The difficulty of doing so is well illustrated by two common features of the Internet: content delivery networks (CDNs) and caching.

[4] This first half of this definition is an almost verbatim copy of the definition adopted in 2018 Order ¶ 21. By its own terms, it covers interstate communications so long as one user is in California and is not limited to purely intrastate communications.

A. Content Delivery Networks (CDNs)

Content Delivery Networks (CDNs) constitute a core pillar of the Internet, delivering an estimated 56% of all Internet traffic in 2017, a number predicted to grow to 72% by 2022. Cisco, *Cisco Visual Networking Index: Forecast and Methodology, 2017-2022*, at 3 (2019), https://davidellis.ca/wp-content/uploads/2019/05/cisco-vni-feb2019.pdf. CDNs store the same content at hundreds of thousands of locations in every state and in dozens of countries around the world. For example, market leader Akamai stores content at more than 325,000 servers connected to over 1,435 networks in more than 135 countries. Akamai, *Facts and Figures*, https://www.akamai.com/us/en/about/facts-figures.jsp (last visited Apr 12, 2021). CDNs make delivery of content faster, more secure, and less congested by spreading traffic across multiple locations, closer to users. 2018 Order ¶ 169.

CDNs adjust on the fly to deliver content from the most efficient source, determined by both proximity and the need to balance the loads on different servers. Limin Wang et al., *The Effectiveness of Request Redirection on CDN Robustness*, 36 ACM SIGOPS OPERATING SYSS. REV. 345 (Dec. 2002), *available at* https://www.usenix.org/legacy/events/osdi02/tech/full_papers/wang/wang.pdf. As a result, predicting the location from which content delivered by CDN will come is impossible: Both endpoints can be inside of California, outside of

California, or one inside and one outside, depending on how the CDN routes the request.

Traffic delivered via CDN thus represents the type of commingling of elements that is practically impossible to separate. Consider, for example, service provided in the Lake Tahoe region located in Nevada. A CDN would ordinarily respond to a request for access to a website that it supports either through a server located either in Stateline or Carson City, Nevada, or one located in South Lake Tahoe or Sacramento, California, depending on which one would be optimal. Implementation of the California statute would force CDNs to select the server based not only on which one would provide the best service but also on the burdens created by state law should it opt to serve the traffic from one located in California and the costs to implement systems to differentiate between the two types of traffic.

B. Caching

Another related technology is caching. Caching, like CDNs, makes retrieving Internet content faster, more reliable, and cheaper by storing content closer to users. 2018 Order ¶ 42. Different companies temporarily cache popular content on local servers around the country and the world. Sometimes broadband providers cache content to deliver to users either on their own or as a service to content companies and may market caching services as a point of differentiation.

Id. ¶ 48. On other occasions, content companies cache their own content on their own servers or on CDNs. An emerging literature suggests that caching may play a particularly important role in new 5G networks. *See, e.g.*, Fawad Ahmad et al., *Cooperation Based Proactive Caching in Multi-Tiered Cellular Networks*, 10 APPLIED SCI. 6145 (2020).

Caching adds a layer of complexity and unpredictability about whether and where to cache particular content . As the FCC notes, caching is based on complex algorithms to determine what content to cache, where and how long to cache it, and in what format. 2018 Order ¶ 41 & n.141. As a result, content accessed under the same IP address may be delivered from a distant server located in another state or from a local server located within the state, a decision that may vary from network to network and even within the same network over time. *Restoring Internet Freedom*, Notice of Proposed Rulemaking, 29 FCC Rcd. 4434 ¶ 29 (2017). Implementation of the California statute would alter this decision by providing incentives to cache content hosted inside California in a location outside the state, by imposing costs to differentiate among requests for service depending on location, and by creating additional compliance costs. Even more problematically, these decisions would alter users' rights in ways that are completely opaque to them.

C. An Intermingled System

The practical result of both CDNs and caching is that the California statute forces ISPs to differentiate between different types of traffic and users in ways that are quite problematic. Compliance with the California statute could force broadband providers to subject all traffic to the most stringent requirements regardless of any conflicts with federal policy. *See* 2018 Order ¶ 200 ("[I]t is impossible or impracticable for ISPs to distinguish between intrastate and interstate communications over the Internet or to apply different rules in each circumstance. Accordingly, an ISP generally could not comply with state or local rules for intrastate communications without applying the same rules to interstate communications."). Already, California's intrusive regulations have endangered a nationwide partnership between Internet providers and the Department of Veterans Affairs to connect veterans to healthcare services over the Internet. *See* John Hendel, *VA Asking California if Net Neutrality Law Will Snag Veterans' Health App*, POLITICO CAL. (Mar. 24, 2021 6:48 PM), https://www.politico.com/states/california/story/2021/03/24/va-asking-california-if-net-neutrality-law-will-snag-veterans-health-app-1369440.

The California statute risks forcing ISPs into differentiating among different types of traffic in ways that are practically impossible. (Indeed, the prospect that a law intended to encourage similar treatment of traffic might compel such

differential treatment is ironic.) The difficulty in implementing this distinction risks forcing ISPs into a Hobson's choice between implementing an economically nonviable solution and foregoing providing a beneficial service altogether, an unacceptable double bind that this Court has already found sufficient to justify preempting the conflicting state law. *California*, 39 F.3d at 933.

CONCLUSION

For the foregoing reasons, this Court should find a likelihood of success on the merits of the Plaintiff-Appellants' preemption claim.

Respectfully submitted,

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Christopher S. Yoo

April 13, 2021

CERTIFICATE OF COMPLIANCE

9th Cir. Case Number(s) 21-15430

I am the attorney or self-represented party.

This brief contains 5,764 **words,** excluding the items exempted by Fed. R. App. P. 32(f). The brief's type size and typeface comply with Fed. R. App. P. 32(a)(5) and (6).

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